CLAIMS

1. A method of manufacturing a composite soft magnetic material having excellent magnetic characteristics, a high strength, and a low core loss, comprising steps of:

heating a silicon resin film-coated soft magnetic powder at a temperature of from the room temperature to 150 °C obtained by forming a thin silicon resin film having a thickness of from 0.1 μm to 5 μm on a surface of a soft magnetic powder or an insulating film-coated soft magnetic powder;

filling the silicon resin film-coated soft magnetic powder heated at a temperature of from the room temperature to 150 °C in a mold which is heated at a temperature of from 100 °C to 150 °C and performing compaction at a pressure of from 600 MPa to 1500 MPa, thereby obtaining a compact; and

curing the compact at a temperature of from 400 °C to 600 °C.

2. The method of manufacturing the composite soft magnetic material having excellent magnetic characteristics, a high strength, and a low core loss according to Claim 1, wherein the insulating film-coated soft magnetic powder is a phosphate film-coated soft magnetic powder.

3. A composite soft magnetic material having excellent magnetic characteristics, a high strength, and a low core loss manufactured according to Claim 1.

4. A composite soft magnetic material having excellent magnetic characteristics, a high strength, and a low core loss manufactured according to Claim 2.